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ABSTRACT

The perceptions of early elementary disabled students of their classroom learning environments were studied through multiple data collection methods. These perceptions were compared with observations of students in their learning environments (triangulated). Twelve disabled students from six classrooms were interviewed and observed, and they completed an adapted version of the My Class Inventory-Short Form (B. Fraser, G. Anderson, and H. Walberg, 1982), which measured their perspectives from a personal point of view. The students' personal perceptions of their classrooms as measured by interview and survey responses were consistent in direction on most dimensions, but the survey was more effective in eliciting students' opinions. There were, however, many inconsistencies between students' perceptions of their learning environments and researchers' observations. Two students, for example, were highly satisfied with their classrooms, yet observers thought that the teacher neglected the academic well-being of students, was unprepared to teach, and was sometimes verbally abusive. In two classrooms, observers thought that the learning environment was positive, but students did not think so. Findings suggest that there is a need to include a qualitative or observational component in measuring the learning environments of students with disabilities. Appendixes contain the survey instrument, the interview question guide, and tables of interview and survey and observation results. (Contains 2 tables and 27 references.) (SLD)

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Triangulating Multiple Perspectives on Classroom Learning Environments for Disabled Students: Whose Truth?

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Introduction

With the current trend toward inclusion of special needs students in regular education classrooms, regular educators must address and meet the increasingly diverse educational needs of students in public school classrooms. In any classroom, the student population may range from those students identified with special educational needs (e.g. learning disabled, behavior disordered, gifted-talented) to students with disabilities as defined by Section 504 of PL 93-112, the Vocational Rehabilitation Act, to non-disabled students with a wide range of educational needs.

Teachers, drawing on their beliefs, feelings, and knowledge, make instructional decisions that result in teaching behaviors aimed at addressing the needs of the diverse learners within their classrooms. The subsequent interactions between the teacher and other students in the class result in the formation of personal perceptions of the learning environment by disabled and non-disabled students. Previous research (Fraser, 1986, 1992; Kaufman, Agard, and Semmel, 1985; Loup, Ellett, Chauvin, Lofton, Hill & Evans, 1993) suggests that student perceptions of the learning environment

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are linked to teacher characteristics and teaching behaviors, and more importantly to academic achievement.

The study of learning environments focuses on the psychosocial structure of educational environments and includes both teacher-student and student-student interactions (Ellett, Hill, Liu, Loup, & Lakshmanan, 1997). Typically, classrooms and schools have been the focus of most studies of learning environments. However the impact of constructivist ideas has resulted in many recent studies of the classroom learning environment treating individuals as the unit of analysis as it is believed that each student constructs or lives in his/her own perceived learning environment (Fraser, Giddings, & McRobbie, 1993).

Within schools, learning environment research has mainly focused on regular education classrooms and regular education students. Fewer studies, limited to self-contained special education classes, have focused on learning environment perceptions of special education students (Leone, Luttig, Zlotlow, & Trickett, 1990). However, when mainstreamed special needs students have been studied (Kaufman, Agard, & Semmel, 1985), classroom climate was found instrumental in explaining much of the variation in academic competence in both educable mentally retarded mainstreamed children and non-handicapped children. For mainstreamed mentally retarded students, teacher characteristics, socio-emotional climate, and instructional operations were important factors in explaining normative achievement whereas peer characteristics were more important for the non-handicapped children (1985).

The current study expands the research on learning environments by using mixed methodology to further explore the perceptions of the learning environment of special needs inclusion students. The purpose of the current study was to arrive at a consensus regarding the perceived learning environment of special needs students in regular classrooms by utilizing mixed methodology comprised of student interviews, student surveys, and participant observation.

Literature Review

Classroom Learning Environments

Over the last thirty years, the role of the classroom environment and its influence on cognitive and affective outcomes of students has been extensively researched. Theoretically, research on classroom learning environments, rooted in social cognition, postulates that how students perceive and react to learning tasks may be as important or more important in influencing student outcomes than the observed quality of the teaching behaviors (Knight & Waxman, 1991; Wittrock, 1986). Reciprocal determinism, as defined by Bandura (1986), also contributes significantly to the theoretical underpinnings of classroom environment research. The concept of reciprocal determinism asserts that a constant interaction exists between the person, the environment, and the behavior. In addition, Bandura (1986) also proposes that by acting in certain ways, an individual can influence changes in the environment and, in turn, the changed environment influences the individual's behavior. Therefore, this fluid dynamic between student and environment serves as either the inhibitor or the catalyst for desired student outcomes.

A unifying conceptual framework representing the various determinants of the classroom learning environment was proposed by Moos (1980). The model focuses on interrelationships among four specific environmental factors: Structure and Organization, Cognitive Processes, Student Characteristics and Teacher Characteristics. In the model, the quality of the classroom environment is a function of the interaction between the four environmental variables. The representation of the classroom learning environment via these four domains serves as the conceptual foundation for the My Class Inventory (MCI) (Fraser, Anderson & Walberg, 1982) which is used to assess the classroom learning environment.

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Student Perceptions

Research into student perceptions of the classroom learning environment suggests that students generally prefer a more positive classroom environment than is actually present (Moos, 1980; Fraser, 1982; Fisher & Fraser, 1983). Additionally, findings to date suggest that students achieve at higher levels when a greater agreement exists between actual and preferred classroom environments (Fisher & Fraser, 1983; Fraser, 1987, Haertel, Walberg & Haertel, 1981). Research has identified a number of components that contribute to the "preferred" classroom environment. Student behavior is one of the components that affect the nature of the classroom learning environment. A positive emotional climate has been related to low incidences of disruptive behavior and to greater student participation in classroom discourse (Crocker & Brooker, 1986).

The degree of competitiveness present in the classroom also affects student perceptions of the learning environment. Many traditional classrooms emphasize competition among students. However, recent studies suggest that the use of cooperative learning results in a classroom climate that facilitates development of positive social relations and school work attitudes (Johnson, Johnson, Holubec, & Roy, 1984; Slavin, 1983; Zahn, Kagan & Widaman, 1986). In addition, Wright & Cowen (1985) examined the effects of the peer teaching component of cooperative learning on a variety of environmental variables. Findings suggested that students in cooperative learning classrooms utilizing peer tutoring perceived their classrooms as more orderly, organized, and were happier in class. To date, research findings suggest that students' cognitive, affective, and social potential is maximized when the classroom learning environment is perceived as cohesive, cooperative, and satisfying and when competitiveness and friction are perceived as low.

Triangulation of Data Sources and Analysts

Triangulation usually involves the comparison of data collected using qualitative methods with data collected through the use of quantitative methods (Patton, 1990). This triangulation of qualitative

and quantitative data is a form of comparative analysis that is used to enhance the quality and credibility of findings. As stated by Denzin (1970, p. 313), "by combining multiple observers, theories, methods and data sources," researchers attempt to "overcome the intrinsic bias that comes from single methods, single-observer, and single theory studies."

Another form of triangulation involves using multiple observers or analysts. The use of multiple observers serves to reduce the potential for bias present when a single person does all of the data collection. Multiple analysts can also be used. This form of triangulation involves having two or more persons independently analyze the qualitative data and then compare their findings and eventually arrive at a consensus (Patton, 1990).

The current trend in the study of learning environments involves the use of both qualitative and quantitative data to develop more comprehensive insights into students' perceptions of their learning environment (Waxman, Huang, Wang, 1997). Research (Tobin & Fraser, 1992; Tobin, Kahle, & Fraser, 1990) utilizing qualitative and quantitative data has enhanced understanding of the nature of classroom learning environments and helped identify characteristics of exemplary teachers. Additionally, observational data used in conjunction with surveys of students' perceptions have illustrated that some subgroups of students or individual students within a classroom experience vastly different perceptions of their learning environment (Fraser & Tobin, 1992).

Methodology

Purpose

The purpose of this paper is to examine early elementary disabled students' perceptions of the learning environment through the use of multiple methods of data collection and to compare these perceptions with observations of the students in their learning environment.

Research Questions

The following major research questions are addressed in this paper:

1. Are disabled students' perceptions of the learning environment consistent across methods of data collection?

2. Are disabled students' perceptions of the learning environment consistent with observers' perceptions of the students' learning environment?

Participants

Twelve disabled students (classified special education students and students covered by Section 504 of PL93-112) were chosen to participate in this study: two students from each of three classrooms in two schools. The students were previously chosen by their teachers to participate in a research project to examine the feasibility of using portfolio assessment as an alternative method of evaluating disabled students' progress in writing. As an extension of this research project, we became interested in examining how these disabled students perceived their learning environments.

Two researchers were responsible for interviewing, surveying, and observing the students. One of the researchers is a reading specialist, and the other is a research methodologist. Each researcher has more than 5 years classroom teaching experience: one in elementary settings and the other in middle/high school settings. Both researchers participated in all phases of the project including data analysis.

Data Collection and Analysis

All twelve students were interviewed and surveyed. Each student was asked to complete an adapted version of the My Class Inventory-Short Form (MCI-SF) (Fraser, Anderson & Walberg, 1982). The MCI-SF was adapted to measure students' perceptions of their learning environment from a personal perspective rather than a whole-class perspective along five dimensions of the learning environment. These dimensions include Satisfaction, Friction, Competition, Cohesiveness, and Difficulty. Each subscale of the learning environment as measured by the adapted version of the MCI-SF consists of five questions. Students were asked to respond to questions such as, "I am friends with

everybody in this class". Surveys were read aloud, and students circled *yes* or *no* to each statement. *Yes* and *no* responses were coded as +1 and –1, respectively. Therefore, summing the response values for all five questions in a subscale results in odd integer subscale scores ranging from –5 to +5. More positive subscale scores indicate higher levels of the particular dimension of the learning environment.

Students were interviewed using standardized open-ended questions. The questions were designed to elicit information along the dimensions of the MCI-SF (adapted personal version). Appendix B contains the Student Interview Question Guide used for the interviews. During the interviews, the two researchers recorded field notes from each of the student's responses. All data from the interviews were analyzed independently by the two researchers. Each interview response was coded as being more positive than negative (+) or more negative than positive (-) for each of the five dimensions on the MCI-SF (adapted personal form). For Friction, Competition, and Difficulty subscales, a '+' interview response represents the presence of some degree of friction (competition or difficulty). Consensus was reached between the two researchers for all responses. To triangulate data collection methods for students' perceptions of the learning environment, students' interview results were compared with their numeric survey results.

Each student was observed in his/her classroom learning environment by the two researchers. Participant observations of the classroom environment were conducted on numerous occasions. Data included field notes of student behavior and interactions, time-on-task estimates, and written snapshots of the classroom on a typical day. Field notes were analyzed by recording the type and number of interactions between the disabled students in the study and their teachers and peers. Interactions were coded as positive or negative based on the researchers' perceptions of the nature of the interaction. Continuous discussion between individuals would only be recorded as one incident regardless of the length of the discussion.

Classroom environmental context variables were recorded to develop a snapshot of the classroom learning environment. These variables include the amount of individual interaction, seating arrangement, climate, types of questioning, room appearance, types of student recognition, modeling, instruction, and the degree of monitoring of student behavior. Additionally, time on task estimates for each classroom were calculated by averaging percentages from 'visual scans' taken at 5 minute fixed intervals for approximately one hour. Data recorded during the visual scans included on and off task behavior of the disabled students in the study and all other students in the classroom. Each researcher performed scans at different times. Students' behaviors were recorded as either on task while interacting with the teacher, on task but not interacting with the teacher, or off task. For this study, on task behavior is defined as participating in assigned learning activities.

Results

Appendix C is a display of the interview and survey results. As indicated by the shaded area on Appendix C, the general tone of most students' responses to the interview questions was in agreement with their survey responses. Most students were fairly consistent in how they responded on most dimensions of the learning environment. In general, where students were inconsistent in their interview and survey responses, their interview response was coded as positive while their survey results were negative. Students were most inconsistent on the Friction and Competition dimensions. Three out of four students who were inconsistent on the Friction dimension indicated higher levels of friction than their survey responses indicated. However, no pattern is evident on the Competition subscale.

Appendix D contains the results of the observations of the students in their learning environment. For four students in this study, positive and negative interactions with their teacher were evenly distributed across students in the same class and across positive and negative types of interactions. Students 3 and 4 did not interact negatively with their respective teacher. Students 9 and 10 did not interact with Teacher Y. During the observation period in this classroom, there was no

individual interaction among students or among students and the teacher. Students 7, 8, and 11 were more likely to interact positively with their teacher than negatively.

Peer interactions, particularly positive peer interactions, were at a minimum for these students. Student 7 displayed one incident of positive and one incident of negative interaction with a peer. Otherwise, Students 1, 2, 4, and 12 exhibited only negative interactions with their peers. The other students in the study did not interact with their peers during the observations.

Time on task estimates for most of the classrooms in this study indicate that off-task behavior of the disabled students was approximately 20-25%. The exceptions are in the classrooms of Teacher B and Teacher Z. Disabled students in Teacher B's classroom were almost always on-task while disabled students in Teacher Z's classroom were mostly off-task.

The environmental context variables in Appendix D give a 'snapshot' of these classrooms. In the classrooms where individual interaction with the teacher was minimal, the climate of the room seemed to have a neutral or negative feel (Classrooms of Teachers A, C, Y, and Z). In these same classrooms, little questioning, particularly higher-order questioning was observed, and whether organized or disorganized, these classrooms were generally stark. Students' work was not displayed in these classrooms, and instruction in these classrooms was teacher-led in most cases and did not include discussion.

In classrooms where individual interaction was high, the climate was positive, students were recognized through praise and public display of their work, and the rooms were organized and busy. Teachers modeled behaviors, and in one case cognitive processes, in these classrooms. Discussion and questioning were used with teacher-led instruction.

The six classrooms differed in the amount of behavioral monitoring that was present. However, this variable seemed to contribute to the overall atmosphere of the classroom. There is

evidence of a relationship between off-task behavior and how diligently students' behavior was monitored.

Discussion

In this study, students' personal perceptions of the learning environment, as measured by their interview and survey responses, were consistent in direction on most dimensions. On the Friction dimension, three of the disabled students described high levels of friction between themselves and other students in their classrooms. However, in responding to survey questions, such as "I fight a lot with children in my class," students were less likely to answer positively. For these children, sharing 'war stories' of fighting and arguing with particular individuals in their class may have been a way of gaining status among their peers. When asked on paper if they fight often and with most of the students in their class, their answer was no.

During the interviews, researchers noted that students were generally reluctant to share their feelings about their peers, teachers, and the classroom atmosphere. It was evident that the survey instrument was more effective in detecting variability in student perceptions across the five dimensions measured. Although, we suspect that the interview was less effective, interview results did add depth to the survey results.

The greatest area of inconsistency in this study was between the researchers' observations of the students in their learning environment and the students' perceptions of the learning environment. For some students, the researchers were able to 'see' what the students' survey and interview results indicated. For instance, Student 1's results depict a child who is dissatisfied with his learning environment. He described a high level of competition and little cohesiveness with his classmates and teacher. These results meshed with the observations of this student in his classroom environment. He was clearly unhappy and unmotivated. He became disgruntled when others who were finished their work were able to work at the computers in the room. Once he finished, there was no available

computer for him to use. Instead, he was instructed repeatedly to get a book and do his 'time' reading his required 15 minutes per day from a very limited selection at the back of the room.

Unfortunately, the researchers were not able to consistently predict students' perceptions of the learning environment. Possibly, the eyes of the researchers were unable to interpret observed phenomena as perceived by inexperienced third, fourth, and fifth grade disabled students. For most students, it appears that components of the learning environment viewed negatively by the researchers were not manifested in students' perceptions.

For example, Students 11 and 12 were highly satisfied, perceived low levels of friction, and high levels of cohesiveness in the learning environment. However, observational evidence indicates that Teacher Z consistently neglected the academic well being of most of the students in his classroom, including the two disabled students in this study. No academic or behavioral demands were placed on these students. This teacher was clearly unprepared to teach the lesson presented. Additionally, the teacher became verbally abusive to the class as behavior deteriorated.

For students in the classrooms of Teachers B and X, the learning environment clearly appeared to be positive to the researchers; however, students' perceptions indicate otherwise. Therefore, for this age group of disabled students, the observed classroom learning environment, as perceived by educators, appears to be unrelated to students' personal perceptions of their learning environment.

These findings suggest that there is a need to include a qualitative or observational component in measuring learning environments of students with disabilities. Disabled students in significantly different (observed) learning environments might have the same positive perceptions of these different learning environments. Attention, cognition and affect mediate students' perceptions before observable behaviors are elicited. This may conceptually account for the disparity between students' perceptions of the learning environment and observations of students in their learning environment. Student perceptions were not adequate to distinguish between different learning environments. Observations

of the learning environment help to shed light on these differences. Therefore, research in the study of learning environments as perceived by young disabled children should include measures of student perceptions and observational data.

Additional findings support prior research indicating that individual students within a learning environment may differ in their personal perceptions of that learning environment. Students 1 and 2 are opposite in their satisfaction with the learning environment. In Teacher B's classroom, Students 3 and 4 disagree about the cohesiveness of the learning environment. Because of these variations in students' perceptions of the learning environment, it is important to include measures of students' personal perceptions in any research on learning environments.

Future research in the study of learning environments should include studies of how disabled students' personal perceptions of their learning environment might differ from regular education students' perceptions of the same environment. Further exploration into the degree of disparity between observations of students in their learning environment and students' personal perceptions of the learning environment is needed. Possible developmental explanations of this disparity should be explored

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Appendix A: My Class Inventory-Short Form (Adapted Personal Version)

MY CLASS INVENTORY - SHORT FORM (ADAPTED PERSONAL VERSION)

Item number	Item	Scoring Direction
	Satisfaction	
1.	I enjoy the schoolwork in my class.	+
6.	I am not happy in my class.	-
11.	I like my class.	+
16.	I don't like my class.	-
21.	My class is fun.	+
	Friction	
2.	I am always fighting with other children in my class.	+
7.	Some of the children in my class are mean to me.	+
12.	I fight with many children in my class.	+
17.	I always want to have my own way.	+
22.	I fight a lot with children in my class.	+
	Competitiveness	
3.	I often race with other children to see who can finish first.	+
8.	I want my work to be better than my friends' work.	+
13.	I feel bad when I don't do as well as the others in my class.	+
18.	I always try to do my work better than the others.	+
23.	A few children in my class want to be first all of the time.	+
	Difficulty	
4.	The work in my class is hard for me to do.	+
9.	I can do my schoolwork without help.	-
14.	Only the smart students can do the work in my class.	+
19.	My schoolwork is hard to do.	+
24.	I know how to do my work in my class.	-
	Cohesiveness	
5.	I am friends with everybody in my class.	+
10.	I am not friends with some people in my class.	-
15.	All of the students in my class are my close friends.	+
20.	I like all of the students in my class and they like me.	+
25.	In my class, the children like each other as friends.	+

Appendix B: Student Interview Question Guide

1. Tell me a little about how you like Ms./Mr. _____ class?

   What are some of the fun things you do?

   What are some things you are doing when it is not fun?

2. How do you get along with other students in your class?

   How do the other students in your class get along with each other?

3. How are you doing in Ms./Mr. _____ class?

   How are other students in your class doing?

   How do your grades compare to other students' grades in your class?

4. How hard is the work in Ms./Mr. _____ class?

   Do other students in your class find the work easy?

5. Who are some of your friends in your class?

   What do you like about these friends?

   What are some of the things you like to do with your friends in this class?

6. When Ms./Mr. _____ gives the class directions for an assignment, how easy or hard is it to understand him/her?

   If it is hard to understand, what do you do?

Appendix C: Student Interview and Survey Results.

	School I												School II											
	Teacher A				Teacher B				Teacher C				Teacher X				Teacher Y				Teacher Z			
	1		2		3		4		5		6		7		8		9		10		11		12	
I=Interview S=Survey	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S
Satisfaction	-	-5	+	+5	+	+1	+	+5	+	+5	+	+5	+	-1	+	+1	+	+5	+	+1	+	+5	+	+5
Friction	+	-3	-	-1	+	-3	-	-5	-	-5	-	-3	-	-1	-	-5	+	-3	-	+3	-	-3	-	-3
Competition	+	+5	+	+3	+	+3	-	+3	+	-5	+	+3	+	+3	-	-1	-	+1	+	+5	+	+5	+	-1
Difficulty	-	-3	-	-3	-	-3	-	-3	-	+1	-	-1	+	-1	-	-5	+	+1	+	+1	-	-1	-	-5
Cohesiveness	-	-5	-	-5	-	-3	+	+5	+	+3	+	-3	+	+3	+	+5	-	-3	-	-1	+	+3	+	+5

Shading indicates agreement between interview and survey responses.
+ Indicates presence of component.
- Indicates absence of component.

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Appendix D: Observation Results.

	School I						School II					
	Teacher A		Teacher B		Teacher C		Teacher X		Teacher Y		Teacher Z	
Student	1	2	3	4	5	6	7	8	9	10	11	12
Observed Behaviors												
+ interaction with teacher	2	4	3	4	2	2	4	5	0	0	4	1
- interaction with teacher	3	4	0	0	3	2	1	1	0	0	2	1
+ interaction with peers	0	0	0	0	0	0	1	0	0	0	0	0
- interaction with peers	2	2	0	3	0	0	1	0	0	0	0	4
Time on Task Estimates	Non-disabled Students	Disabled Students	Non-disabled Students	Disabled Students	Non-disabled Students	Disabled Students	Non-disabled Students	Disabled Students	Non-disabled Students	Disabled Students	Non-disabled Students	Disabled Students
On task: Interactive w/ Teacher	3%	7%	48%	55%	47%	50%	69%	61%	91%	83%	2%	13%
On task: Non-Interactive	62%	70%	34%	40%	29%	30%	12%	10%	0%	0%	35%	13%
Off task	35%	23%	18%	5%	24%	20%	19%	29%	9%	17%	53%	74%
Context Variables	Teacher A		Teacher B		Teacher C		Teacher X		Teacher Y		Teacher Z	
Individual Interaction	For behavior management		High		Little		Moderate		None		Little	
Location of disabled students	Mid-room		Front		Back		Mid to front		All over		All over	
Climate	Negative		Positive		Neutral		Positive		Neutral		Negative	
Questioning	None		Some mid-level		Factual		Some higher order		Factual		None	
Room	Unorganized and drab		Organized and busy		Organized and drab		Organized and busy		Organized and stark		Disorganized and stark	
Recognition	None		Displayed and through comments		None		Displayed and through comments		None		None	
Modeling	None		Some behavioral		None		Some cognitive and behavioral		None		None	
Instruction	Oral, seat-work		Oral/written/ tactile, teacher-led		Oral, teacher-led		Oral, written, teacher-led with discussion		Oral, teacher-led		Oral teacher-led	
Monitoring	Little		Good deal		Good deal		Some		Complete		None	

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